Probabilistic Hydrologic Outlook
Issued 3/1/2012

...Spring flood and water resources outlook number 2...

This flood outlook is for the National Weather Service Omaha area. This area includes eastern Nebraska and portions of southwest Iowa. It includes portions of the following rivers and their tributaries...

Missouri River from Decatur to Rulo
Platte River from Duncan to Louisville
Elkhorn River from Neligh to the Platte River confluence
Niobrara River
Big Blue River

...Current Flood Outlook Highlights...

* The risk of flooding for the remainder of winter and into mid spring is near to below normal at most locations. Locally heavy spring rains will likely cause flooding in localized areas as is the case every year. This outlook is directed towards flooding on a larger scale.

* Current conditions are not conducive to major, large-scale flooding.

* Based on current conditions, only minor flooding is expected along portions of the Missouri River. Specifically, areas below the mouth of the Platte River should expect minor flooding to occur. Minor flooding is defined as flooding that creates minimal or no property damage, but possibly some public threat. In the case of the Missouri River below Omaha this means lowland areas or areas that typically flood during the spring.

* If conditions change enough over the next week the National Weather Service in Omaha will issue its next updated outlook on Thursday March 8.

* Graphics for select river gauges are available on our website at: water.weather.gov/ahps2/index.php?wfo=oax, once a gauge is selected click on the graph and choose "chance of exceeding levels during entire period."

* To complete a survey on how we may improve this outlook please visit: http://tinyurl.com/7waw368

Overview...Across eastern Nebraska and southwest Iowa there has been little change over the last two weeks. Precipitation has been near normal across eastern Nebraska to about a half inch to an inch above normal across eastern Iowa. This observed precipitation wasn`t enough to appreciably increase the flooding potential. In addition what snow did fall melted quickly so the snow pack in our area remains zero. As a result the current conditions continue to point to normal to below normal chances for spring flooding.

Mountain and Plains snow pack...As of March 1 the mountain snow pack is 101% of normal in the Missouri River headwaters. A majority of the mountain river basins are actually tracking below normal with respect to the amount of snow received. However, the Powder, Tongue and Big Horn basins are tracking above normal, in the end this averages out to a normal mountain snow pack for this time of year.

In the headwaters of the Platte River the snow pack is estimated at 99% of normal with the lower Platte basin in Wyoming measured at 132% of normal. Like the Missouri River several basins in the Platte River headwaters are actually below normal but when averaged results in a near normal snow pack. This is a significant difference from last year when nearly all basins received well above normal snowfall in the Missouri and Platte River headwaters.

Across the Plains the snow pack is confined to the central and eastern Dakotas. Across eastern South Dakota snow water equivalent values range from 1 to 2.5 inches. Elsewhere across the plains snow water equivalent values are less than one inch.

Soil conditions and frost depths...Across eastern Nebraska and southwest Iowa frost depths are negligible given the recent above normal temperatures. Soil moisture is currently near to above normal across the area, largely the result of recent rain and snow.

Current river conditions...the latest USGS readings indicate most rivers are flowing above normal. These conditions are described in more detail in the sub-sections to follow.

Weather outlook...The National Weather Service`s Climate Prediction Center (CPC) indicates a slightly higher than usual chance for temperatures to be in the warmest third for March through May, compared to the 1981-2010 period. CPC also indicates equal chances for above, near and below normal precipitation, with increased chances for dry conditions further west in western Nebraska and Kansas, and increased chances for wetter conditions well to the east in the Great Lakes region. The CPC drought outlook indicates that moderate to severe drought in northwest and west central Iowa and far northeast Nebraska will persist this spring.

To follow are sections describing the threat for flooding for select river basins.

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*** MISSOURI RIVER FROM DECATUR TO RULO ***
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Overview...specific chances for flooding are not available for the Missouri River. Despite this, conclusions on the current flooding threat can still be determined based on the observed snow pack, soil moisture conditions and historical streamflow values. In our area flooding along the Missouri River has two main inputs, the releases from the upstream reservoir, specifically Gavins Point, and the amount of water entering the river below Gavins Point, which is referred to as the unregulated flow.

Gavins Point Flow...last year was a flood year that we may not see again in our lifetime. Last year Gavins point outflows peaked at 160,000 cubic feet per second, resulting in historic flooding downstream. Releases this high are extremely rare. Prior to last year the peak outflow from gavins point was 70,000 cfs. The current release from Gavins point is 22,000 cfs. The eventual peak outflow is unknown, but using the Army Corp`s annual operating plan, a possible range of outflows can be used to determine the downstream flooding threat. Another factor to take into account is that the Corps has increased the amount of storage available for this years spring runoff in the upstream reservoirs. While this cannot remove the possibility of flooding it is certainly a positive.

Unregulated flow...this component of the Missouri River flooding is usually the biggest wildcard. Spring rains in Nebraska and Iowa can result in a large influx of water below Gavins Point Dam as was the case in 1993 and 2010. This unregulated flow is typically the cause of the high stages experienced below Gavins Point, last year was an extreme exception to this rule. While we can look at precipitation outlooks for the next three months it is not possible to say exactly how much rain will fall. Instead we have to look at the historical streamflow values at various gauges along and near the Missouri River. From this information a flooding threat can be determined.

Looking at all the information the data indicates that areas above the Platte River confluence are unlikely to see flooding this spring. Below the Platte River confluence minor flooding is expected.

LOCATION	CURRENT STREAMFLOW COMPARED TO NORMAL
MISSOURI RIVER:	
AT OMAHA	38% GREATER
AT NEBRASKA CITY	20% GREATER
AT RULO	21% GREATER

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* **NIOBRARA RIVER** *
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LOCATION	CHANCE OF REACHING FLOOD STAGE COMPARED TO NORMAL	CHANCE OF MINOR FLOODING
NIOBRARA RIVER:		
AT VERDEL	N/A	<1%
PONCA CREEK:		
AT VERDEL	NEAR NORMAL	13%

LOCATION	CURRENT STREAMFLOW COMPARED TO NORMAL
NIOBRARA RIVER AT VERDEL	21% GREATER
PONCA CREEK AT VERDEL	-17% LESS

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* **BIG BLUE RIVER BASIN** *
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LOCATION	CHANCE OF REACHING FLOOD STAGE COMPARED TO NORMAL	CHANCE OF MINOR FLOODING
BIG BLUE RIVER:		
AT SURPRISE	NEAR NORMAL	9%
AT SEWARD	NEAR NORMAL	14%
AT CRETE	-7% LESS	44%
AT BEATRICE	-16% LESS	15%
AT BARNESTON	-8% LESS	5%
LINCOLN CREEK:		
AT SEWARD	-9% LESS	17%
W FK BIG BLUE RIVER:		
AT DORCHESTER	-10% LESS	18%
TURKEY CREEK:		
AT WILBER	-21% LESS	29%
LITTLE BLUE RIVER:		
AT DEWEESE	6% GREATER	22%
AT FAIRBURY	NEAR NORMAL	8%

LOCATION	CURRENT STREAMFLOW COMPARED TO NORMAL
BIG BLUE RIVER:	
AT CRETE	-39% LESS
LITTE BLUE RIVER:	
AT FAIRBURY	-23% LESS

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*** ELKHORN RIVER BASIN ***
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LOCATION	CHANCE OF REACHING FLOOD STAGE COMPARED TO NORMAL	CHANCE OF MINOR FLOODING
ELKHORN RIVER:		
AT NELIGH	N/A	<1%
AT NORFOLK	N/A	<1%
AT PILGER	NEAR NORMAL	4%
AT WEST POINT	NEAR NORMAL	4%
AT HOOPER	NEAR NORMAL	3%
AT WATERLOO	N/A	<1%
N FK ELKHORN RIVER:		
AT PIERCE	-8% LESS	3%
LOGAN CREEK:		
AT UEHLING	N/A	2%

LOCATION	CURRENT STREAMFLOW COMPARED TO NORMAL
ELKHORN RIVER:	
AT NORFOLK	73% GREATER
AT PILGER	82% GREATER
AT WATERLOO	64% GREATER

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* **PLATTE RIVER BASIN** *
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	CHANCE OF REACHING FLOOD STAGE COMPARED TO NORMAL	CHANCE OF MINOR FLOODING
PLATTE RIVER:		
AT DUNCAN	NEAR NORMAL	9%
AT NORTH BEND	-15% LESS	11%
AT LESHARA	-6% LESS	9%
AT ASHLAND	-8% LESS	18%
AT LOUISVILLE	NEAR NORMAL	4%
SHELL CREEK:		
AT COLUMBUS	7% GREATER	12%
SALT CREEK:		
AT ROCA	NEAR NORMAL	9%
AT LINCOLN	NEAR NORMAL	8%
AT GREENWOOD	NEAR NORMAL	13%
AT ASHLAND	NEAR NORMAL	30%
WAHOO CREEK:		
AT ITHACA	NEAR NORMAL	31%

LOCATION	CURRENT STREAMFLOW COMPARED TO NORMAL
PLATTE RIVER:	
NEAR DUNCAN	37% GREATER
AT NORTH BEND	-20% LESS
NEAR LESHARA	32% GREATER
NEAR ASHLAND	1% GREATER
AT LOUISVILLE	21% GREATER

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* OTHER TRIBUTARIES TO THE MISSOUR RIVER *
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LOCATION	CHANCE OF REACHING FLOOD STAGE COMPARED TO NORMAL	CHANCE OF MINOR FLOODING
MAPLE RIVER AT MAPLETON	N/A	<1%
LITTLE SIOUX RIVER AT TURIN	-15% LESS	12%
SOLDIER RIVER AT PISGAH	N/A	<1%
BOYER RIVER AT LOGAN	NEAR NORMAL	7%
WEEPING WATER CREEK AT UNION	NEAR NORMAL	11%
NISHNABOTNA RIVER:		
EAST NISHNABOTNA AT RED OAK	-13% LESS	24%
WEST NISHNABOTNA AT HANCOCK	N/A	<1%
WEST NISHNABOTNA AT RANDOLPH	N/A	<1%
NISHNABOTNA AT HAMBURG	-24% LESS	32%
LITTLE NEMAHA RIVER AT AUBURN	N/A	13%
N FK BIG NEMAHA RIVER AT HUMBOLDT	N/A	<1%
BIG NEMAHA RIVER AT FALLS CITY	-8% LESS	9%
NODAWAY RIVER AT CLARINDA	NEAR NORMAL	20%

LOCATION	CURRENT STREAMFLOW COMPARED TO NORMAL
LITTE SIOUX RIVER AT TURIN	37% GREATER
WEEPING WATER CREEK AT UNION	22% GREATER
NISHNABOTNA AT HAMBURG	-9% LESS
NODAWAY RIVER AT CLARINDA	150% GREATER

FOR INFORMATION ON OTHER USGS SITES PLEASE VISIT: www.usgs.gov

Question regarding this outlook should be directed to:

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THE REST OF THIS DOCUMENT IS A MORE SPECIFIC LISTING OF
PROBABILITIES FOR EACH SITE.

THE VALUES IN THE TABLE BELOW ARE VALID FROM 03/2/12 TO 06/1/12.

IN THE TABLE BELOW...THE 90 THROUGH 10 PERCENT COLUMNS INDICATE THE CHANCE THAT A LOCATION ON A RIVER COULD RISE ABOVE THE LISTED STAGE LEVELS IN THE NEXT 90 DAYS. FOR EXAMPLE: THE MAPLE RIVER NEAR MAPLETON HAS A FLOOD STAGE OF 21 FEET. THERE IS A 20 PERCENT CHANCE THAT THE RIVER WILL RISE ABOVE 10.2 FEET IN THE NEXT 90 DAYS.

		ALL STAGES IN FEET								
LOCATION	FS(FT)	90%	80%	70%	60%	50%	40%	30%	20%	10%
MAPLE RIVER										
MAPLETON	21.0	5.5	6.0	6.4	7.2	7.7	8.1	8.6	10.2	12.3
LITTLE SIOUX RIVER										
TURIN	20.0	8.8	8.9	9.9	10.6	12.1	13.8	15.3	16.0	19.6
SOLDIER RIVER										
PISGAH	28.0	4.6	5.1	5.6	6.7	7.3	8.0	8.8	9.6	10.3
BOYER RIVER										
LOGAN	19.0	5.5	6.7	7.4	7.8	9.0	10.4	11.3	13.7	17.9
WEEPING WATER CREEK										
UNION	25.0	3.5	6.1	7.2	8.3	9.8	11.0	16.6	19.5	25.8
EAST NISHNABOTNA RIVER										
RED OAK	18.0	6.6	8.8	10.4	11.5	12.0	13.8	16.5	19.2	21.6
WEST NISHNABOTNA RIVER										
HANCOCK	14.0	2.2	3.0	4.3	4.8	5.3	5.9	6.4	7.6	10.0
RANDOLPH	19.0	8.6	10.1	11.0	11.6	12.1	12.9	13.6	15.2	17.9
NISHNABOTNA RIVER										
HAMBURG	23.0	10.0	12.4	15.6	16.4	17.9	21.2	23.6	25.7	28.0

LOCATION	FS(FT)	90%	80%	70%	60%	50%	40%	30%	20%	10%
LITTLE NEMAHA RIVER										
AUBURN	22.0	5.0	6.3	7.3	8.3	8.7	10.4	17.2	20.0	22.2
NORTH FORK BIG NEMAHA RIVER										
HUMBOLDT	28.0	4.5	6.4	6.6	7.5	8.2	9.2	10.1	12.4	14.9
BIG NEMAHA RIVER										
FALLS CITY	23.0	7.5	10.5	11.5	12.0	14.1	14.9	18.0	20.0	22.5
NODAWAY RIVER										

CLARINDA	19.0	11.7	12.9	13.4	14.2	14.7	16.3	17.6	18.9	20.7
BIG BLUE RIVER										
SURPRISE	7.0	2.0	2.4	2.9	3.1	3.4	3.8	4.1	4.8	6.6
SEWARD	18.0	2.8	4.5	7.1	9.3	10.7	12.3	14.1	16.6	18.3
CRETE	18.0	8.8	10.6	13.5	14.5	17.2	19.0	20.5	22.1	23.9
BEATRICE	16.0	4.1	6.3	8.3	9.4	11.1	11.8	12.7	15.4	17.9
BARNESTON	20.0	5.6	7.9	9.8	11.2	12.7	13.8	14.5	15.8	18.2
LINCOLN CREEK										
SEWARD	15.0	4.9	6.4	9.4	10.8	11.6	13.0	14.2	14.6	16.5
WEST FORK BIG BLUE RIVER										
DORCHESTER	15.0	3.8	5.3	6.3	7.4	9.6	11.2	13.0	14.7	17.7
TURKEY CREEK										
WILBER	11.0	4.4	6.2	7.1	8.1	8.8	10.3	10.9	12.2	13.8
LITTLE BLUE RIVER										
FAIRBURY	18.5	8.6	10.7	11.7	12.7	14.4	15.0	16.2	16.7	17.3

LOCATION	FS(FT)	90%	80%	70%	60%	50%	40%	30%	20%	10%
NORTH FORK ELKHORN RIVER										
PIERCE	12.0	4.3	4.3	4.5	5.0	6.2	7.4	8.2	9.2	10.9
ELKHORN RIVER										
NELIGH	11.0	3.8	4.4	4.9	5.2	5.6	5.9	6.3	6.8	7.5
NORFOLK	12.0	3.3	3.4	3.9	4.2	4.4	4.7	4.9	5.3	6.4
PILGER	12.0	8.4	8.4	8.6	8.8	8.9	9.1	9.4	9.6	10.1
WEST POINT	12.0	7.4	7.4	7.8	8.0	8.2	8.4	8.7	9.2	10.1
HOOPER	14.0	5.6	5.8	6.3	6.8	7.5	8.3	8.9	10.1	11.7
WATERLOO	17.0	4.6	5.2	5.9	6.4	7.0	7.5	9.1	10.1	11.7
PLATTE RIVER										
DUNCAN	8.0	4.4	4.5	4.7	5.0	5.3	5.6	5.8	6.3	7.6
NORTH BEND	8.0	5.0	5.1	5.4	5.7	6.1	6.2	7.1	7.6	8.2
LESHARA	8.0	5.0	5.2	5.4	5.7	6.1	6.2	6.8	7.1	7.8
ASHLAND	20.0	16.5	16.5	17.1	17.5	17.8	18.2	19.0	19.7	20.3
LOUISVILLE	9.0	4.6	4.6	5.4	5.9	6.2	6.9	7.7	8.1	8.6
LOGAN CREEK										
UEHLING	18.0	4.7	5.7	6.5	7.3	8.4	9.8	10.9	12.0	14.3
NIOBRARA RIVER										
VERDEL	7.0	2.7	3.1	3.2	3.5	3.5	3.7	3.9	4.1	4.6
PONCA CREEK										
VERDEL	12.0	5.4	5.8	7.0	7.5	8.5	8.6	9.3	10.3	12.3
SHELL CREEK										
COLUMBUS	20.0	7.4	7.4	7.7	8.9	11.6	13.6	16.3	17.3	20.3

SALT CREEK										
ROCA	19.0	3.1	4.8	5.6	6.0	7.1	9.1	11.3	13.7	18.0
LINCOLN	20.5	3.1	4.5	5.6	6.3	9.1	11.6	13.4	15.2	18.8
GREENWOOD	20.0	3.6	5.9	6.4	7.9	10.2	12.6	16.9	18.8	21.6
ASHLAND	16.0	7.6	9.1	9.5	10.5	12.1	13.7	16.0	17.4	18.0
WAHOO CREEK										
ITHACA	19.0	4.6	6.5	8.2	9.6	10.6	12.7	19.6	20.9	21.6

Visit our web site at www.weather.gov/omaha for more weather and river information including graphs of probabilistic river outlooks.